ſomewhat reddiſh; ſilver, a greeniſh ſtain. We once took two pieces of thick looking-glaſs, as broad as a Gunter's ſcale, and 6 inches long; and placing leaf gold between them, put them betwixt two ſmoothly plain'd pieces of wood, and fix'd them tight in a book-binder's ſmall preſs; yet though they were ſo cloſely confined, the force of the electrical ſhock ſhivered the glaſs into many pieces. The gold was melted and ſtain'd into the glaſs as uſual. The circumſtances of the breaking of the glaſs differ much in making the experiment, and ſometimes it does not break at all: but this is conſtant, that the ſtains in the upper and under pieces are exact counterparts of each other. And though I have taken up the pieces of glaſs between my fingers immediately after this melting, I never could perceive the leaſt warmth in them.

25. In one of my former papers, I mention'd, that gilding on a book, though at firſt it communicated the ſhock perfectly well, yet fail'd after a few experiments, which we could not account for. We have ſince found, that one ſtrong ſhock breaks the continuity of the gold in the filleting, and makes it look rather like duſt of gold, abundance of its parts being broken and driven off; and it will ſeldom conduct above one ſtrong ſhock. Perhaps this may be the reaſon; when there is not a perfect continuity in the circle, the fire muſt leap over the vacancies; there is a certain diſtance which it is able to leap over according to its ſtrength; if a number of ſmall vacancies, though each be very minute, taken together exceed that diſtance, it cannot leap over them, and ſo the ſhock is prevented.

26. From the before mentioned law of electricity, that points, as they are more or leſs acute, draw on and throw off the electrical fluid with more or leſs power, and at greater or leſs diſtances, and in larger or ſmaller quantities in the ſame time, we may ſee how to account for the ſituation of the leaf of gold ſuſpended between two plates, the upper one continually electrified, the under one in a perſon's hand ſtanding on the floor. When the upper plate is electrified, the leaf is attracted and raiſed towards it, and would fly to that plate were it not for its own points. The corner that happens to be uppermoſt when the leaf is riſing, being a ſharp point, from the extream thinneſs of the gold, draws and receives at a diſtance a ſufficient quantity of the electrical fluid to give itſelf an electrical atmoſphere, by which its progreſs to the upper plate is ſtopt, and it begins to be repelled from that plate, and would be driven back to the under plate, but that its loweſt corner is likewiſe a point, and throws off or diſcharges the overplus of the leaf's atmoſphere, as faſt as the upper corner draws it on. Were theſe two points perfectly equal in acuteneſs, the leaf would take place exactly in the middle ſpace, for its Weight is a trifle, compared to the power acting on it: But it is generally neareſt the unelectrified plate, becauſe, when the leaf is offered to the electrified plate at a diſtance, the ſharpeſt point is commonly firſt affected and raiſed towards it; ſo that point, from its greater acute-

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